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# Fax

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**Message:**

*missing 11 pages*

# ksfo-client.txt

```
#!/usr/local/bin/perl

# webChat(tm) Client v 0.2
# Copyright (c) 1995 Internet Roundtable Society
# Programmed by Michael Fremont, email: webchat@irsociety.com

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# along with this program; if not, write to the Free Software
# Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

# this script is executed when a user submits the "chat" form.

#LITERALS
#-----
$LOCK_SH = 1;
$LOCK_EX = 2;
$LOCK_NB = 4;
$LOCK_UN = 8;

$TRUE = 1;
$FALSE = 0;

#GLOBALS
#-----
$client = "http://cgi-bin/nph-client#anchor1";

# the following line is for the www.irsociety.com system
#$talkfile = "/home/webchat/transcripts/ksfo";
# the following line is for the webchat.service.digital system
#$talkfile =
"/usr/local/httpd/htdocs/webchat/transcripts/ksfo";
$talkfile =
"/home/lanshark/www/pages/webchat/transcripts/ksfo";

$point_gif =
"http://www.cybertoday.com/cybertoday/webchat/point.gif";
$webchat_logo =
"http://www.ccnet.com/laporte/images/ksfologo.gif";
$about_local_server = "http://www.cybertoday.com/";
$local_tz = "PDT (-0700 GMT)";

$read_block_size = 512;
$num_context_paras = 0;
$num_context_paras_when_starting = 10;
$para_mark_size = 7; # 7 digits (space padded)
$back_jump = 10;
$way_back_when = 40;

# get the form
&ReadParse;
```

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                                ksfo-client.txt
$last_read_para = $in{last_read_para};
$wants_dates_printed = $in{wants_dates_printed};
$back_para = $in{back_para};

# we've changed to letting you specify how far back you want to scroll
# we're leaving the old code in case we go back
if($in{Back} > 0)
{
    $back = $TRUE;
    $back_para = $back_para - $back_jump;
    ($back_para < 1) && ($back_para = 1);
#    $last_read_para = $back_para;
    $last_read_para = $last_read_para - $in{Back};
    ($last_read_para < 1) && ($last_read_para = 1);
}

#!!! for debugging
#if($in{InputText} eq "")
#
#    $in{handle} = "Michael Fremont";
#    $in{InputText} = "hello, world!";
#
# open a (properly initialized) transcript file

# later: if need to die, put text in some log file somewhere
open (TRANSCRIPT, "+<$talkfile") || die "client
can't open transcript file";

# If the user input any text, add it to transcript file
($in{InputText} ne "" && $back eq "") && &add_to_transcript;

# Update the output area or send error message if nothing new
&output_new_form;
exit;

sub output_new_form

# if there is new output for this user, send it to him. Otherwise return
# "no new info" error message to his browser so it keeps his current state

{
    local ($buf, $tbuf, $last_para, $found, $amount_to_read);
    local ($para_num, $date, $handle, $headURL, $headURLsize, $text);

# look for first context paragraph that is to be output to user
# note - it may not be in transcript file anymore, if the file was pruned
# but for this version, assume pruning has not yet been implemented

    $first_context_para = $last_read_para - $num_contextparas;
    ($first_context_para < 1) && ($first_context_para = 1);
    $ffirst_context_para =
        "\0"
        pack("A$para_mark_size", $first_context_para) .
        "\1";

# read a block from the end of the file and look for the context para.

```

```

                                ksfo-client.txt
# If not found, read more from the file until it is found
$first_read = $TRUE;

seek(TRANSCRIPT, 0, 2); #move to EOF

# loop until found context para or at beginning of file
# (BOF determined by finding para 0 mark at beginning of buf)
while ( !($found = $buf =~ /$ffirst_context_para/) )
{
    $amount_to_read = $read_block_size;
    $curr_loc = tell(TRANSCRIPT);

    ($curr_loc == 0) && last; # read to beginning of file already

    ($curr_loc < $read_block_size) && ($amount_to_read = $curr_loc);
    seek(TRANSCRIPT, -$amount_to_read, 1);
    read(TRANSCRIPT, $tbuf, $amount_to_read);
    if($first_read == $TRUE)
    {
        # if no new data, exit loop
        # check by looking for same para# at end of file as before
        $first_read = $FALSE;
        $last_para=
            pack("A$para_mark_size", $last_read_para+1);

        $next_para_num =
            substr($tbuf, length($tbuf)-$para_mark_size-1);

        # commented out so we ALWAYS return data - otherwise
        # NETSCAPE can get confused in its caching. (I think)
        ($next_para_num eq $last_para)
        && last;

        # if the context para is way before $next_para_num, it's
        # because the user just got into chat, and the transcript
        # file is big. Change context para so they only get
        # stuff near the end of file, and aren't overwhelmed.
        if(($last_para lt $next_para_num - $way_back_when) && !$back)
        {
            $first_context_para = $next_para_num -
$num_contextparas_when_starting;
            $ffirst_context_para =
                "\0"
                pack("A$para_mark_size", $first_context_para) .
                "\1";
        }
    }

    # add new stuff to $buf
    $buf = $tbuf . $buf;

    # move back to before the data we just read
    seek(TRANSCRIPT, -$amount_to_read, 1);
}

# send "no data" status if:
# * no new data, or
# * there's no data at all in the file
if(!$found)
{
    #!! the next line must change based on which ver. of HTTP req. came in
    print "HTTP/1.0 204 NO RESPONSE\n";
    Page 3
}

```

```

                                ksfo-client.txt
print "Server: WebChat Client via CERN/3.0\n";
print "Content-Type: text/html\n\n";
exit;
}

print "HTTP/1.0 200 OK\n";
print "Server: WebChat Client via CERN/3.0\n";
print "Content-Type: text/html\n\n";

&output_form_header;

#print context

# break the buffer into separate paragraphs
# paragraph 0 has file-global info, and is not a real para so don't output it

# NOTE: this will could result in a lot of elements if we read a lot of
# the file
@paras = split(/\000/, $buf);

# output each paragraph
for($a=1; $a<$#paras; $a++)
{
    &print_para($a);
}

print "<FORM ACTION=\"\$client\" METHOD=\"POST\">\n";

$last_read_para = $next_para_num -1;
&output_hidden_field("last_read_para", "$last_read_para");

($back eq "") && ($back_para = $last_read_para);
&output_hidden_field("back_para", "$back_para");

&output_form_trailer;
}

sub print_para
# prints the indicated paragraph to the user
{
    ($out_para) = @_;

    $anchor_para = $last_read_para;
    ($anchor_para < 1) && ($anchor_para = 1);

    ($para_num, $date, $handle, $headURL, $headURLsize, $text) =
        split(/\001/, $paras[$out_para]);

    # put the anchor one paragraph in front of new stuff
    if ($para_num == $anchor_para)
    {
        print "<A NAME=\"anchor1\"></A>";
    }

    if($para_num == $last_read_para+1)
    {
        print "<IMG ALIGN=bottom SRC=\"\$point_gif\"><BR>\n";
    }
}

```

ksfo-client.txt

```

($headURL =~ /http:\/\/\w/) && print $headURL;

# the BR CLEAR=left causes our version of Air Mosaic to really puke, but
# without it we can't wrap the text to the right of the images, which really
# saves screen space and looks a lot better. So we'll leave it in until
# we get lots of complaints from users.
#   print "$handle:", "<BR>\n$text<BR><P>\n";
#   print "$handle: . . . $date", "<BR>\n$text<BR CLEAR=left><P>\n";
}

sub output_form_header
# prints the header portion of the talk form (everything up to the chat section)
{
print "<HTML>\n",
"<HEAD>\n",
"<title>Webchat</title>\n",
"</HEAD>\n",
"<BODY>\n",
"<IMG ALIGN=bottom SRC=\"$webchat_logo\"><HR>\n"; }

#FORM FOLLOWS (mostly)
sub output_form_trailer
#prints the trailer portion of the talk form (everything after the chat section)
{
print "<BR><INPUT TYPE=\"submit\" NAME=\"Chat\" VALUE=\"Chat\"> Get/Send message\n",
" . . Scroll Back \n<INPUT TYPE=\"text\" SIZE = \"5\" NAME=\"Back\">\n",
messages,
"<TEXTAREA NAME=\"InputText\" ROWS=3 COLS=70></TEXTAREA><P>\n",
"Your Handle: <INPUT NAME=\"handle\" VALUE=\"$in{handle}\"><p>\n",
"Your picture URL: <INPUT TYPE=\"text\" SIZE = \"50\" NAME=\"picture\">\n",
"VALUE=\"$in{picture}\"><p>\n",
# "Your room: <SELECT NAME=\"room\">\n",
# "<OPTION>Room 1\n",
# "<OPTION>Room 2\n",
# "<OPTION>Room 3\n",
# "<OPTION>Room 4\n",
# "<OPTION>Room 5\n",
# "<OPTION>Room 6\n",
# "</SELECT><P>\n",
# "</FORM>\n",
"Click here for <A\n",
HREF="http://www.irsociety.com/webchat/help.html\">Help</A>. ",
# "Click here for a <A\n",
HREF="http://www.irsociety.com/webchat/transcript.html\">Transcript.</A>\n",
# "Click here for <A\n",
HREF="http://www.irsociety.com/webchat/options.html\">Options</A>\n",
# "Go to the <A HREF=\n",
"\"http://www.irsociety.com/webchat/webchat.html\">WebChat Home Page</A>\n",
# "About this <A HREF= \"$about_local_server\">Server</A>\n",
# "<FORM>\n",
# "<INPUT TYPE=\"submit\" NAME=\"exit\" VALUE=\"Goodbye\">\n",
# "</FORM>\n",

```

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```

    "</BODY>";
    "</HTML>";
}

```

```
sub init_transcript_file
```

```

# makes a new transcript file with the given name, and initializes it as
# follows:
#
# a dummy paragraph, numbered 0, that looks like this:
#      0      \1
#      possibly some global file info here, not yet defined
#      \0
#      1      \1
#
# the first real paragraph in a transcript file is numbered 1
#
# paragraphs have the following format:
# (all entries are \1 terminated, except the null paragraph terminator)
#
# paragraph number (7 digits, space padded)
# date
# handle
# head URL
# head URL size
# text
# null paragraph terminator

# paragraph numbers are fixed in size so we can improve efficiency.
# The end of a transcript file always has the next paragraph number so we
# can very quickly see if there is any new text. By having it be a fixed
# size field we know exactly where the beginning of it is.

# Records are null terminated so we can easily split the file into
# paragraphs, and fields are terminated with \1 so we can split a record.

{
}

```

```
sub output_hidden_field
```

```

# outputs an HTML formatted hidden field to stdout
# input parameters are:
#      name, value

{
local ($name, $value);
($name, $value) = @_;

print "<INPUT TYPE=\"hidden\" NAME=\"$name\" VALUE=\"$value\">\n";
}

```

```
sub add_to_transcript
```

```

# the user has submitted text to add to the conversation
# add it, as appropriate, to the transcript

{
# now we're ready to write it, get file lock

```

```

                                ksfo-client.txt
flock(TRANSCRIPT, $LOCK_EX); # waits here until gets exclusive lock
# analyze input for links like http: and gopher:
&analyze_input;

# the next paragraph number is already at the end of the file; get it
# stored as a null, then $para_mark_size digits string, space padded, then "\1"
seek(TRANSCRIPT, -($para_mark_size+1), 2);
read(TRANSCRIPT, $next_para_num, $para_mark_size+1);
#re-seek to end of file for OS systems that need interspersed read/seek/write
seek(TRANSCRIPT, 0, 2);
print TRANSCRIPT join("\1", $date, $handle, $headURL, $headURLsize,
    $input_text), "\1\0", pack("A$para_mark_size", ++$next_para_num), "\1";

# done with writing, unlock file
flock(TRANSCRIPT, $LOCK_UN);
}

sub analyze_input

# looks at the text input from the user; any hyperlink references found
# (such as http: and gopher:) are converted to HTML so they become live
# when sent back to a user. NOT YET IMPLEMENTED.

# also constructs header information such as date of input, handle, etc.
{
# get the date and time
local ($sec, $min, $hour, $mday, $mon, $year, $yday, $isdat) = localtime;
local ($am_pm, $picture);

$am_pm = "AM";
if ($hour > 12)
{
    $hour = $hour - 12;
    $am_pm = "PM";
}
($min < 10) && ($min = '0' . $min);
local (@day_of_week) = ("Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat");
local (@month) = ("Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep",
"Oct", "Nov", "Dec");
$date = "$day_of_week[$yday], $month[$mon] $mday, $hour:$min$am_pm $local_tz";

# get the user's handle
$handle = $in{handle};

# convert user's head URL to HTML form
$picture = $in{picture};

# if the machine has a domain name, make it inline
if ($picture =~ m!(http://[a-z][\~a-z0-9/\.] + \.gif\w*)!i)
{
    ($headURL = "<IMG ALIGN=left HSPACE=10 SRC=\"\" . $picture . \">\n");
}

# otherwise, just point to it as a hotlink
elsif ($picture =~ m!(http://[\~a-z0-9/\.] + \.gif\w*)!i)
{
    ($headURL = "<A HREF=\"\"$picture\">picture</a><br>\n");
}

# get the size of the user's picture
# not yet implemented

```

# ksfo-client.txt

```

$headURLsize=1;

# look for hyperlinks in inputted text and convert them to HTML
# not yet fully implemented
$input_text = ${InputText};

# look for HTML markup language in the input. If they get it wrong, it will
# cause many browsers to die, so for now, we disallow it.
# Brain-dead, temporary solution: if we find pairs of <> brackets, replace
# them with the words 'less than' and 'greater than' and put out an
# 'advisory' message.
# We do this rather than trying to parse HTML now. Later we will.
# side-effect: if the user really was using '<' and '>' for something else
# in the message... oops.

$input_text =~ s/<([^\>]*)>/\1/gi;

#this is such a hack that if anyone claims I did it I will deny it!
# inline any .gifs referenced in user's text
# first make them invisible to the next line
$input_text =~ s!http(?://[\~a-z0-9_\.\.]+\.\gif\w*)!xxxx$1!gi;
$input_text =~ s!http(?://[\~a-z0-9_\.\.]+\.\jpg\w*)!xxxx$1!gi;

# make any other hypertext pointers live
#known bug: matches http://www.irsociety.com. (includes the period in button)
$input_text =~ s!(http://[\~a-z0-9_\.\.]+\.\S+)!<A HREF=\"$1\"><B>button</B></A>!gi;
$input_text =~ s!(ftp://[\~a-z0-9_\.\.]+\.\S+)!<A HREF=\"$1\"><B>button</B></A>!gi;
$input_text =~ s!(mailto:[@a-z0-9_\.\.]+\.\S+)!<A HREF=\"$1\"><B>button</B></A>!gi;

# now inline the .gifs and .jpgs
# only display headURL if from a machine with a domain name, not just
# a number. This is so the user's browser doesn't hang up "forever"
# trying to reach a machine that is likely not to be a permanent
# member of the Internet

# for pics from machines with just an IP address, use a placeholder
# image that is live and points to the real address. If the user
# wants to see it, he can click on it. If the link is dead, it
# won't look like webchat has failed.

$input_text =~ s!xxxx(?://[\~a-z0-9_\.\.]+\.\gif\w*)!<IMG SRC =\"http$1\">!gi;

#$input_text =~ s!xxxx(?://[\~a-z0-9_\.\.]+\.\gif\w*)!<A
HREF=\"http$1\">picture</a><br>!gi;

$input_text =~ s!xxxx(?://[\~a-z0-9_\.\.]+\.\jpg\w*)!<IMG SRC =\"http$1\">!gi;
###
}

# Perl Routines to Manipulate CGI input
# S.E.Brenner@bioc.cam.ac.uk
# $Header: /cys/people/seb1005/http/cgi-bin/RCS/cgi-lib.pl,v 1.7 1994/11/04 00:
#17:17 seb1005 Exp $
#
# Copyright 1994 Steven E. Brenner
# Unpublished work.
# Permission granted to use and modify this library so long as the
# copyright above is maintained, modifications are documented, and

```

```

ksfo-client.txt
# credit is given for any use of the library.
#
# Thanks are due to many people for reporting bugs and suggestions
# especially Meng Weng Wong, Maki Watanabe, Bo Frese Rasmussen,
# Andrew Dalke, Mark-Jason Dominus and Dave Dittrich.
#
# see http://www.seas.upenn.edu/~mengwong/forms/ or
# http://www.bio.cam.ac.uk/web/ for more information
#
# Minimalist http form and script (http://www.bio.cam.ac.uk/web/minimal.cgi):
# if (&MethGet) {
#   print &PrintHeader,
#   '<form method=POST><input type="submit">Data: <input name="myfield">';
# } else {
#   &ReadParse(*input);
#   print &PrintHeader, &PrintVariables(%input);
# }

# MethGet
# Return true if this cgi call was using the GET request, false otherwise
# Now that cgi scripts can be put in the normal file space, it is useful
# to combine both the form and the script in one place with GET used to
# retrieve the form, and POST used to get the result.

sub MethGet {
  return ($ENV{'REQUEST_METHOD'} eq "GET");
}

# ReadParse
# Reads in GET or POST data, converts it to unescaped text, and puts
# one key=value in each member of the list "@in"
# Also creates key/value pairs in %in, using '\0' to separate multiple
# selections

# If a variable-glob parameter (e.g., *cgi_input) is passed to ReadParse,
# information is stored there, rather than in $in, @in, and %in.

sub ReadParse {
  local (*in) = @_ if @_;

  local ($i, $loc, $key, $val);

  # Read in text
  if ($ENV{'REQUEST_METHOD'} eq "GET") {
    $in = $ENV{'QUERY_STRING'};
  } elsif ($ENV{'REQUEST_METHOD'} eq "POST") {
    read(STDIN,$in,$ENV{'CONTENT_LENGTH'});
  }

  @in = split(/&/,$in);

  foreach $i (0 .. $#in) {
    # Convert plus's to spaces
    $in[$i] =~ s/\+/ /g;

    # Split into key and value.
    ($key, $val) = split(/=/, $in[$i], 2); # splits on the first =.
    #!! text fields return empty values when user doesn't use; dump these
    ($val eq "") && next;

    # Convert %XX from hex numbers to alphanumeric
  }
}

```

```

                                ksfo-client.txt
$key =~ s/%(..)/pack("c",hex($1))/ge;
$val =~ s/%(..)/pack("c",hex($1))/ge;

# Associate key and value
$in{$key} .= "\0" if (defined($in{$key})); # \0 is the multiple separator
$in{$key} .= $val;
}

return 1; # just for fun
}

# PrintHeader
# Returns the magic line which tells www that we're an HTML document

sub PrintHeader {
    return "Content-type: text/html\n\n";
}

# PrintVariables
# Nicely formats variables in an associative array passed as a parameter
# And returns the HTML string.

sub PrintVariables {
    local (%in) = @_;
    local ($old, $out, $output);
    $old = $*; $* = 1;
    $output .= "<DL COMPACT>";
    foreach $key (sort keys(%in)) {
        foreach (split("\0", $in{$key})) {
            ($out = $_) =~ s/\n/<BR>/g;
            $output .= "<DT><B>$key</B><DD><I>$out</I><BR>";
        }
    }
    $output .= "</DL>";
    $* = $old;

    return $output;
}

# PrintVariablesShort
# Nicely formats variables in an associative array passed as a parameter
# Using one line per pair (unless value is multiline)
# And returns the HTML string.

sub PrintVariablesShort {
    local (%in) = @_;
    local ($old, $out, $output);
    $old = $*; $* = 1;
    foreach $key (sort keys(%in)) {
        foreach (split("\0", $in{$key})) {
            foreach (split("\0", $in{$key})) {
                ($out = $_) =~ s/\n/<BR>/g;
                $output .= "<B>$key</B> is <I>$out</I><BR>";
            }
        }
    }
    $* = $old;

    return $output;
}
}

```